

AMENDMENTS TO THE CLAIMS:

1. **(Currently Amended)** A method for detecting fusion of an enveloped retrovirus to a target cell, the method comprising:

contacting a target cell with an enveloped retroviral virion, the virion containing a chimeric viral protein comprising a reporter polypeptide operably joined to a viral accessory protein, wherein the reporter polypeptide provides a detectable signal by cleaving a substrate in the target cell upon intracellular delivery of the chimeric viral protein into the target cell cytoplasm, wherein the substrate is retained in the cytoplasm and is not present at a significantly detectable level in an endosome; and which wherein the detectable signal is not detectable prior to said intracellular delivery into the target cell cytoplasm; and

detecting the presence or absence of the detectable signal;

wherein the presence of the detectable signal indicates the virion has ~~fused with the target cell~~ entered the target cell by viral fusion and not by endocytosis.

2. (Original) The method of claim 1, wherein the enveloped retroviral virion is a human immunodeficiency virus (HIV) virion.

3. (Original) The method of claim 2, wherein the chimeric viral protein comprises beta-lactamase (BlaM) operably linked to Viral protein R (Vpr).

4. (Cancelled)

5. **(Currently Amended)** The method of ~~claim 4~~ claim 1, wherein the reporter polypeptide is beta-lactamase.

6. (Previously Presented) The method of claim 5, wherein the substrate is coumarin cephalosporin fluorescein (CCF2).

8. (Original) The method of claim 1, wherein the reporter polypeptide is beta-lactamase (BlaM).
9. (Original) The method of claim 1, wherein the chimeric viral protein comprises beta-lactamase (BlaM) operably joined to Viral protein R (Vpr).
10. (Original) The method of claim 9, wherein BlaM and Vpr are joined through a spacer peptide.
11. (Previously Presented) The method of claim 1, wherein the retroviral virion is a pseudotyped virion, and wherein the envelope protein of the pseudotyped virion is not endogenous to the retroviral virion.
12. (Currently Amended) A method for detecting fusion of an human immunodeficiency virus (HIV) virion to a target cell, the method comprising:
contacting a target cell with an HIV virion containing a chimeric viral protein, wherein the chimeric viral protein comprises a beta-lactamase (BlaM) polypeptide operably linked to a viral accessory protein, and wherein the cell contains a BlaM substrate which is retained in the cytoplasm and is not present at a significantly detectable level in an endosome, wherein so that intracellular introduction of the chimeric viral protein into the target cell cytoplasm results in cleavage of the substrate by BlaM and production of a detectable signal;
wherein detection of the detectable signal indicates that the HIV virion has fused with the cell entered the target cell by viral fusion and not by endocytosis.
13. (Original) The method of claim 12, wherein the viral accessory protein of the chimeric viral protein is Viral protein R (Vpr).
14. (Original) The method of claim 13, wherein BlaM and Vpr are operably linked through a spacer peptide.

15. (Previously Presented) The method of claim 12, wherein the HIV virion is a pseudotyped HIV virion, and wherein the envelope protein of the pseudotyped virion is not endogenous to the HIV virion.

16-31 (Cancelled)